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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------|------------------|
| 10/016,907 | 12/14/2001 | Ernst-Michael Hamann | DE920000127US1 | 9596 |
| 7590 | 06/17/2004 | | EXAMINER | |
| A. Bruce Clay IBM Corporation Dept. T81/Bldg. 503 P.O. Box 12195 Research Triangle Park, NC 27709 | | | REAGAN, JAMES A | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3621 | |
| | | | DATE MAILED: 06/17/2004 | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/016,907 | HAMANN ET AL. | |
| | Examiner | Art Unit | |
| | James A. Reagan | 3621 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 14 December 2001.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-12 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Status of Claims

1. This action is in response to the application filed on 14 December 2001.
2. Claims 1-12 have been examined.

Claim Objections

3. Claims 5 and 12 are objected to under 37 CFR 1.75(c) as being in improper independent form. Correction is required.
4. Claim 6 is objected to because of the following informalities: Punctuation is missing. Appropriate correction is required.

Examiner's Note: The Applicant is requested to carefully review the claims for improper punctuation and other minor typographical errors that may skew the intended scope of the limitations, as well as any other grammatical flaws.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claim 2 recites the limitation "*said intermediate buffer (10).*" There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
8. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benson (EP 0 936 530 A1) in view of Mooney et al. (US 6,351,813 B1).

Examiner's note: Examiner has pointed out particular references contained in the prior art of record in the body of this action for the convenience of the Applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply. Applicant, in preparing the response, should consider fully the *entire* reference as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Claim 1:

With regard to the limitation of a *virtual smart card control component (8) for handling creating of a virtual smart card and for providing the security and the read/write process for the virtual smart card* (VSC-2, 4, 6), Benson, in at least paragraph 0011 discloses a virtual smart

card, and in at least paragraph 0024 discloses an emulator which passes information to and from a virtual smart card, as well as security procedures in at least paragraph 0025.

With regard to the limitation of a *smart card manager component* (18) *for providing a menu controlled graphical user interface allowing user actions for initiating creation of a VSC and back-up of data objects being stored in said real smart into said corresponding area of said virtual smart card*, Benson, in at least paragraph 0023 discloses a smart card resource manager.

With regard to the limitation of a *communication component* (12, 14, 20, 22, 26, 28) *for transferring said data objects to be backed-up from said real smart card* (32) *to said virtual smart card* (2, 4, 6) *by using functionality of said virtual smart card control component* (8), Benson, in at least paragraph 0024, discloses an emulator which passes information to and from a virtual smart card.

Benson does not specifically disclose a Graphical User Interface, nor does Benson specifically disclose a back up of a smart card. Mooney, however, in at least Figures 4-7 and associated text does teach the use of a GUI to facilitate the transfer of files. In addition, Mooney, in column 13, lines 10-20 discloses a smart card access module, which may be used to back up smart cards on to a disk. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the virtual smart card system of Benson with Mooney's techniques of backing up

smart cards using a Graphical User Interface because it protects the smart card owner and issuer from unauthorized use of lost or stolen smart cards.

Claim 2:

With regard to the limitation of a storage media (2, 4, 6) for providing a virtual smart card having data objects to be securely copied into the assigned area of a real smart card (20), Benson, in at least paragraph 0025, discloses the virtual smart card storing protected information in its database.

With regard to the limitation of a virtual smart card control component (8) for handling creating of a virtual smart card and for providing the security and the read/write process for the virtual smart card (VSC), Benson, in at least paragraph 0024, discloses an emulator that passes information to and from a virtual smart card.

With regard to the limitation of a communication component (12, 14, 20, 22, 26, 28) for providing access to a real smart card via access to a smart card driver (22) assigned to the smart card reader (20), Benson, in at least paragraph 0024, discloses an emulator which passes information to and from a virtual smart card.

With regard to the limitation of a card agent (28) for providing smart card specific commands for writing said data objects to be securely copied from said intermediate buffer (10) into said assigned area of said real smart card (32), Benson, in at least paragraph 0023 discloses a smart card resource manager.

With regard to the limitation of a *smart card manager component* (18) *providing a menu controlled graphical user interface allowing to initiate user actions for creation of a VSC and secure copy of data objects being stored in said virtual smart card into said corresponding area of said real smart card*, Benson, in at least paragraph 0023 discloses a smart card resource manager.

Benson does not specifically disclose a Graphical User Interface, nor does Benson specifically disclose a back up of a smart card. Mooney, however, in at least Figures 4-7 and associated text does teach the use of a GUI to facilitate the transfer of files. In addition, Mooney, in column 13, lines 10-20 discloses a smart card access module, which may be used to back up smart cards onto a disk. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the virtual smart card system of Benson with Mooney's techniques of backing up smart cards using a Graphical User Interface because it protects the smart card owner and issuer from unauthorized use of lost or stolen smart cards.

Claim 3:

With regard to the limitations of:

- *a smart card API component (12) providing an interface to said smart card manger component (18),*
- *an interface to said virtual control component (8), and*

- *an interface to a smart card & SC Reader Handler component (14) providing an interface to all available smart card reader driver(s)(22),*
- *wherein said smart card & SC Reader Handler (22) has an interface to a smart card agency component (26) providing an interface to all available smart card agent(s) (28) providing smart card specific commands,*

The combination of Benson/Mooney as shown above either implicitly or inherently discloses the necessary internal structural hardware and software components that provide the integration and interoperability for the proper utilization of a smart card with a virtual smart card and associated components.

Claim 4:

With regard to the limitation of *said smart card API (12), said smart card manager component (18) and said virtual smart card control component (8) form an integral component*, the combination of Benson/Mooney as shown above either implicitly or inherently discloses the necessary internal structural hardware and software components that provide the integration and interoperability for the proper utilization of a smart card with a virtual smart card and associated components.

Claim 5:

With regard to the limitations of:

- *opening and displaying data objects of a real smart card to be backed-up via said smart card manager graphical user interface;*
- *selecting data objects to be backed-up via said smart card manager graphical user interface;*
- *automatically creating a virtual smart card (VSC) by said smart card control component via said smart card manager graphical user interface;*
- *wherein said created virtual smart card having a defined logical file structure being identical with the logical file structure of said real smart card in use;*
- *opening a data object area of said created virtual smart card for placing said data objects to be backed-up via said smart card manager graphical user interface;*
- *copying data objects to be selected into said area of said created virtual smart card via said smart card manager graphical user interface storing said virtual smart card on a secure permanent storage media;*

The combination of Benson/Mooney as demonstrated above in the rejections of claims 1-4 discloses the virtual smart card and smart card back up system of the claimed invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the virtual smart card system of Benson with Mooney's techniques of backing up smart cards using a Graphical User Interface because it protects the smart card owner and issuer from unauthorized use of lost or stolen smart cards.

Although the combination of Benson/Mooney does not specifically disclose automatic creation of the virtual smart card, opening data objects to be backed up, and copying data objects to a secure permanent storage area, the system as disclosed by the combination of Benson/Mooney inherently discloses common and widely-used techniques of automated file transfer functions.

Claim 6:

With regard to the limitations of:

- *storing both in the respective area of said defined file structure by said virtual smart card control program;*
and
- *electronically storing said defined file structure including said data objects on a storage media (virtual smart card);*

Benson, in at least paragraph 0025, discloses the virtual smart card storing protected information in its database.

With regard to the limitation of *automatically creating a defined file structure having defined areas for placing data objects by a virtual smart card control program*, Mooney, in Figure 7 and associated text discloses the file selection screen, essentially disclosing a filing structure.

With regard to the limitation of *automatically assigning a password and an unique identifier to said defined file structure created*, Mooney, in at least Figure 6 and associated text discloses a password screen and in Figure 7 discloses unique file and folder identifiers. In addition, Mooney, in column 13, lines 10-20 discloses a smart card access module that may be used to back up smart cards on to a disk. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the virtual smart card system of Benson with Mooney's techniques of backing up smart cards using a Graphical User Interface because it provides a system for creating a copy of a real smart card to ensure that lost or stolen smart cards can be quickly and easily replaced with current account information.

Claims 7-9:

The combination of Benson/Mooney as demonstrated above in the rejections of claims 1-4 discloses the virtual smart card and smart card back up system of the claimed invention. Benson/Mooney do not specifically disclose:

- *a public area in which public data objects having no access conditions are placed;*
- *a private area in which private data objects being encrypted are placed;*
- *a secret key area in which key data objects being encrypted are placed;*
- *a password area in which a password being encrypted is placed an unique identifier area in which an unique identifier for identifying the VSC is placed;*
- *said defined file structure of said virtual smart card is a dedicated file structure containing elementary files for defining the areas in which said data objects are to be placed;*
- *user actions via said menu controlled graphical user interface with respect to the private areas of said virtual smart card require the input of a password.*

However, Examiner takes **Official Notice** that it is old and well known in the computing storage arts to place restrictions on files and file folders within a file structure based on privacy standards and setting such as shared, password-protected, encrypted, and public. Placing files and file folders in this type of hierarchical security standard provides a means for providing different types of access based on a user's security status.

Claim 10:

With regard to the limitation of opening, copying, and storing steps are accomplished using a respective functionality provided by the virtual smart card control program, the combination of Benson/Mooney as demonstrated above in the rejections of claims 1-4 discloses the virtual smart card and smart card back up system of the claimed invention, essentially disclosing integral and everyday computer file manipulation techniques of copying, storing, and opening.

Claim 11:

With regard to the limitation of said virtual smart card is created on a server system and is provided to a client system via a secure channel, Benson, beginning in at least paragraph 0034 discloses a client-server network system and a protected communication channel.

Claim 12:

With regard to the limitation of a computer program product stored on a computer usable medium comprising computer readable program means for causing a computer to perform the method of anyone of the claims 5 to 11 when said program product is executed on said computer, see the rejections of claims 5-11 above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **James A. Reagan** whose telephone number is **(703) 306-9131**. The examiner can normally be reached on Monday-Friday, 9:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **James Trammell** can be reached at (703) 305-9768.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Receptionist** whose telephone number is **(703) 305-3900**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 305-7687 [Official communications; including

After Final communications labeled "Box AF"]

(703) 308-1396 [Informal/Draft communications, labeled
"PROPOSED" or "DRAFT"]

Hand delivered responses should be brought to Crystal Park 5,
2451 Crystal Drive, Arlington, VA, 7th floor receptionist.

JAR
14 June 2004

